



**Rigorous Curriculum Design  
Unit Planning Organizer**

Subject:	Mathematics		Grade:	4
Unit Number:	4	Unit Name:	Multiplying Fractions and Decimal Fractions	
Unit Length	Days: 20	Mins / Day:	60	
Unit Synopsis	<p>In this unit, students will extend previous understandings of multiplication to multiply a fraction by a whole number. Students will also solve word problems involving multiplication of a fraction by a whole number. Next students will learn to express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. They will use decimal notation for fractions with denominators 10 or 100. Finally, students will learn to compare two decimals to hundredths by reasoning about their size and recognize that comparisons are valid only when the two decimals refer to the same whole. They will record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify their conclusions.</p>			

	Math CCSS	Standards for Mathematical Practice	
Priority Standards	<p><b>4.NF.4</b> - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p><b>a.</b> Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</p> <p><b>b.</b> Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</p> <p><b>c.</b> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p> <p><b>4.NF.5</b> - Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.<sup>2</sup> For example, express <math>3/10</math> as <math>30/100</math>, and add <math>3/10 + 4/100 = 34/100</math>.</p> <p><b>4.NF.6</b> - Use decimal notation for fractions with denominators 10 or 100. For example, rewrite <math>0.62</math> as <math>62/100</math>; describe a length as <math>0.62</math> meters; locate <math>0.62</math> on a number line diagram.</p> <p><b>4.NF.7</b> - Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual model.</p>	<p><input checked="" type="checkbox"/> Make sense of problems and persevere in solving them</p> <p><input type="checkbox"/> Reason abstractly and quantitatively</p> <p><input checked="" type="checkbox"/> Construct viable arguments and critique the reasoning of others</p> <p><input type="checkbox"/> Model with mathematics</p> <p><input type="checkbox"/> Use appropriate tools strategically</p> <p><input checked="" type="checkbox"/> Attend to precision</p> <p><input checked="" type="checkbox"/> Look for and make use of structure</p> <p><input type="checkbox"/> Look for and express regularity in repeated reasoning</p>	
Supporting Standards	Math CCSS	ELA CCSS	NG ELD Standards

<p><b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><b>4.OA.1</b> - Interpret a multiplication equation as a comparison, e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p>	<p><b>RI.4.1</b> Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p><b>RI.4.4</b> Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <p><b>RI.4.7</b> Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <p><b>W.4.2.a-e</b> Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p><b>W.4.10</b> Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p> <p><b>SL.4.1.a-d</b> Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <p><b>SL.4.2</b> Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p> <p><b>SL.4.3</b> Identify the reasons and evidence a speaker provides to support particular points.</p> <p><b>SL.4.6</b> Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 <a href="#">here</a> for specific expectations.)</p> <p><b>L.4.3.a,c</b> Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <p><b>L.4.4.a-c</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.</p> <p><b>L.4.5.c</b> Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).</p> <p><b>L.4.6</b> Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife, conservation, and endangered</i> when discussing animal preservation).</p>	<p><b>ELD.4.I.B.6</b> (RI.4.1, RI.4.4, L.4.3) Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language.</p> <p><b>ELD.4.I.B.7</b> (L.4.3, L.4.5.c) Listening actively to spoken English in a range of social and academic context.</p> <p><b>ELD.4.I.A.2</b> (L.4.6) Interacting with others in writing language in various communicative forms (print, communicative technology, and multi-media).</p> <p><b>ELD.4.I.C.10</b> (W.4.2.d, W.4.10) Writing literary and informational text to present, describe, and explain ideas and information, using appropriate technology.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Interdisciplinary Standards</p>		

### Unwrapped Priority Standards

<p>Standard 1:</p>	<p><b>4.NF.4</b> - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p><b>a.</b> Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i></p> <p><b>b.</b> Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</i></p> <p><b>c.</b> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p>
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Skills	Concepts	Bloom's	DOK
Multiply	A fraction by a whole number by applying and extending previous understanding of multiplication of a fraction.	3	2
Understand	a <b>fraction</b> $a/b$ as a multiple of $1/b$ . <ul style="list-style-type: none"> <li>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</li> </ul>	2	1
Understand	a <b>multiple</b> of $a/b$ as a multiple of $1/b$ .	2	1
Use	this understanding to multiply a fraction by a whole number. <ul style="list-style-type: none"> <li>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</li> </ul>	3	2
Solve	word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <ul style="list-style-type: none"> <li>For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</li> </ul>	4	3

Standard 2:	<b>4.NF.5</b> - Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <sup>2</sup> For example, express $3/10$ as $30/100$ , and add $3/10 + 4/100 = 34/100$ .		
Skills	Concepts	Bloom's	DOK
Express	a fraction with denominator 10 as an equivalent fraction with denominator 100	2	2
Use	this technique to add two fractions with respective denominators 10 and 100. <sup>2</sup> <ul style="list-style-type: none"> <li>For example, express <math>3/10</math> as <math>30/100</math>, and add <math>3/10 + 4/100 = 34/100</math>.</li> </ul>	3	2

Standard 3:	<b>4.NF.6</b> - Use decimal notation for fractions with denominators 10 or 100. For example, rewrite $0.62$ as $62/100$ ; describe a length as $0.62$ meters; locate $0.62$ on a number line diagram.		
Skills	Concepts	Bloom's	DOK
Use	decimal notation for fractions with denominators 10 or 100. <ul style="list-style-type: none"> <li>For example, rewrite <math>0.62</math> as <math>62/100</math>; describe a length as <math>0.62</math> meters; locate <math>0.62</math> on a number line diagram.</li> </ul>	2	1

Standard 4:	<b>4.NF.7</b> - Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual model.		
Skills	Concepts	Bloom's	DOK
Compare	two decimals to hundredths by reasoning about their size.	4	3
Recognize	that comparisons are valid only when the two decimals refer to the same whole.	1	1
Record	Record the results of comparisons with the symbols $>$ , $=$ , or $<$ .	2	2
Justify	the conclusions, e.g., by using a visual model.	4	3

Learning Progressions

Standard 1:		<p>Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.                      CCSS.Math.Content.4.NF.B.4.a                      Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i>                      CCSS.Math.Content.4.NF.B.4.b                      Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</i>                      CCSS.Math.Content.4.NF.B.4.c                      Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p>			
Previous Grade 3NF.1,3NF.3c		Current Grade		Next Grade 5NF.2,4,6	
Skills	Concepts	Skills	Concepts	Skills	Concepts
Understand	a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into $b$ equal parts; understand a fraction $a/b$ as the quantity formed by $a$ parts of size $1/b$	Understand	a fraction $a/b$ as a multiple of $1/b$ . <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i>	Solve	word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result <math>2/5 + 1/2 = 3/7</math>, by observing that <math>3/7 &lt; 1/2</math>.</i>
Express	whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form <math>3 = 3/1</math>; recognize that <math>6/1 = 6</math>; locate <math>4/4</math> and 1 at the same point of a number line diagram.</i>	Understand	a multiple of $a/b$ as a multiple of $1/b$ , and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</i>	Interpret	the product $(a/b) \times q$ as a parts of a partition of $q$ into $b$ equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ . <i>For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</i>
N/A	N/A	Solve	word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers</i>	Solve	real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Standard 2:		NF 5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <sup>2</sup> For example, express $\frac{3}{10}$ as $\frac{30}{100}$ , and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ .			
Previous Grade 3NF3a		Current Grade		Next Grade 5NF5	
Skills	Concepts	Skills	Concepts	Skills	Concepts
Understand	two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	Express	a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <sup>2</sup> For example, express $\frac{3}{10}$ as $\frac{30}{100}$ , and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ .	Interpret  Comparing  Explaining	multiplication as scaling (resizing), by:  the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.  why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1

Standard 3:		NF 6: Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$ ; describe a length as 0.62 meters; locate 0.62 on a number line diagram.			
Previous Grade n/a		Current Grade		Next Grade 5NF5a	
Skills	Concepts	Skills	Concepts	Skills	Concepts
N/A	N/A	Use	decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$ ; describe a length as 0.62 meters; locate 0.62 on a number line diagram.	Comparing	the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

Standard 4:		NF 7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual model.			
Previous Grade n/a		Current Grade		Next Grade n/a	
Skills	Concepts	Skills	Concepts	Skills	Concepts
N/A	N/A	Compare	two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual model.	N/A	N/A

Big Idea(s)	Corresponding Essential Question(s)
<p><b>4.NF.4</b> – We will use visual models and equations to represent multiplication of fractions</p> <p><b>4.NF.5</b> – Tenths and hundredths can be used when finding equivalent fractions to add them together.</p> <p><b>4.NF.6</b> - Decimal notation for fractions with denominators 10 or 100 can be rewritten as 0.1 and 0.01 respectively. <i>E.g. 1/10 and 1/100 will be written as 0.1 and 0.01.</i></p> <p><b>4.NF.7</b> – Comparing two decimals or fractions can only be compared when they are referencing the same whole</p>	<p><b>4.NF.4</b> – How do you represent multiplying fractions with whole numbers in computation and word problems?</p> <p><b>4.NF.5</b> – When can 10ths and 100ths be used interchangeably?</p> <p><b>4.NF.6</b> – How are fractions of 10ths and 100ths represented as decimals?</p> <p><b>4.NF.7</b> - When are the comparison of two or more decimals or fractions valid?</p>

Unit Vocabulary Words

Academic Cross-Curricular Vocabulary (Tier 2)	Content/Domain Specific Vocabulary (Tier 3)
<p>Apply</p> <p>Understand</p> <p>Model</p> <p>Express</p> <p>Represent</p> <p>Describe</p> <p>Compare/Comparisons</p> <p>Recognize</p> <p>Record</p>	<p>Multiply/Multiplication</p> <p>Fraction</p> <p>Whole Number</p> <p>Multiple</p> <p>Equation</p> <p>Product</p> <p>Solve</p> <p>Word Problems</p> <p>Visual Fraction Model</p> <p>Denominator</p> <p>Equivalent</p> <p>Decimal Notation</p> <p>Hundredths</p> <p>Tenths</p> <p>Symbols</p> <p>Greater Than</p> <p>Less Than</p> <p>Equal To</p>

Resources for Vocabulary Development (Strategies, Routines and Activities)

21<sup>st</sup> Century Skills

<input type="checkbox"/> Creativity and Innovation <input checked="" type="checkbox"/> Critical Thinking and Problem Solving <input checked="" type="checkbox"/> Communication and Collaboration <input type="checkbox"/> Flexibility and Adaptability	<input type="checkbox"/> Initiative and Self-Direction <input checked="" type="checkbox"/> Social and Cross-Cultural Skills <input type="checkbox"/> Productivity and Accountability <input checked="" type="checkbox"/> Leadership and Responsibility
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Costa & Kallick, 2008

Unit Assessments

Pre-Assessment	Post-Assessment
Please check <a href="http://www.alvordschools.org/cfa">www.alvordschools.org/cfa</a> for ID numbers.	Please check <a href="http://www.alvordschools.org/cfa">www.alvordschools.org/cfa</a> for ID numbers.
Scoring Guides and Answer Keys	
Embedded within EADMS	Embedded within EADMS

**Engaging Scenario Overview**  
(Situation, challenge, role, audience, product or performance)

<p><b>Description: The Fundraiser</b> Your school is having a fundraiser. You are in charge of the drink and snack stand. You will be responsible for supplying drinks and snacks to sell during parent-teacher conference week. You will be given a chart with prices from three different stores. Evaluate which stores are going to be the best to purchase your products from. You need to buy 100 drinks and 100 snacks. These amounts need to be shown as fractions with a denominator of 100. Find the total you will spend on drinks and on snacks. Based on how much you spent, how much will you charge for your drinks? How much will you charge for your snacks? If you sold everything you bought, were your sales profitable? You will research and gather your information individually and place your data into your chart.</p>	<p style="text-align: center;"><b>Suggested Length of Time</b></p> <p>Days: 20</p> <p>Mins/Day: 60</p>
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**Engaging Learning Experiences**  
**Synopsis of Authentic Performance Tasks**

Authentic Performance Tasks	Description	Suggested Length of Time
<p><b>Task 1: Snacks at your Sale</b> <b>4.NF.4</b> - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. <b>a.</b> Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>. <b>b.</b> Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.) <b>c.</b> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? <b>Big Idea</b> – We will use visual models and equations to represent multiplication of fractions <b>Essential Question</b> – How do you represent multiplying fractions with whole numbers in computation and word problems?</p>	<p>You have purchased snacks for your week of sales. Snacks were bought in mix and match cases of 32 items each. Your case is made up of <math>\frac{1}{4}</math> popcorn, <math>\frac{1}{2}</math> chips, <math>\frac{1}{8}</math> cookies, and <math>\frac{1}{8}</math> crackers. Represent each of these fractions as a factor of the whole case.</p>	<p>Days: 3-5</p> <p>Mins/Day: 60</p>
<p><b>Task 2: Drinks at your Sale</b> <b>4.NF.5</b> - Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.<sup>2</sup> For example, express <math>3/10</math> as <math>30/100</math>, and add <math>3/10 + 4/100 = 34/100</math>. <b>Big Idea</b> – Tenths and hundredths can be used when finding equivalent fractions to add them together. <b>Essential Question</b> – When can 10ths and 100ths be used interchangeably?</p>	<p>You purchased a case of 100 beverages to sell. Water is <math>\frac{5}{10}</math> of the case, juice boxes are <math>\frac{3}{10}</math> of the case, and soda is <math>\frac{2}{10}</math> of the case. Change the fractions above to fractions with a denominator of 100 to figure out the exact number of each beverage you have to sell.</p> <p>At the end of the week, you sold <b>ALL</b> of the water, <math>\frac{23}{100}</math> of juice and <math>\frac{9}{100}</math> of soda. Tell how many beverages you sold as a fraction with 100 as a denominator.</p>	<p>Days: 3-5</p> <p>Mins/Day: 60</p>
<p><b>Task 3: Fractions to Decimals Then Compare</b> <b>4.NF.6</b> - Use decimal notation for fractions with denominators 10 or 100. For example, rewrite <math>0.62</math> as <math>62/100</math>; describe a length as <math>0.62</math> meters; locate <math>0.62</math> on a number line diagram. <b>4.NF.7</b> - Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual model. <b>Big Idea</b> - Decimal notation for fractions with denominators 10 or 100 can be rewritten as 0.1 and 0.01 respectively. E.g. <math>1/10</math> and <math>1/100</math> will be written as <math>0.1</math> and <math>0.01</math>. <b>Big Idea</b> – Comparing two decimals or fractions can only be compared when they are referencing the same whole <b>Essential Question</b> – How are fractions of 10ths and 100ths represented as decimals? <b>Essential Question</b> - When are the comparison of two or more decimals or fractions valid?</p>	<p>For each day of your sale, you need to have some change to start with. You have 3 quarters, 8 dimes, 12 nickels, and 7 pennies.</p> <p>Represent each of these amounts as a fraction of 10 (if possible), 100, and as a decimal amount.</p> <p>Compare the amount of each type of money you start the day with (i.e. pennies, nickels, dimes, and quarters), using the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>.</p> <p>Determine which type of money you have the most of, least of, etc.</p>	<p>Days: 3-5</p> <p>Mins/Day: 60</p>

<p><b>Task 4: Engaging Scenario</b></p>	<p><b>Description:</b>                  Your school is having a fundraiser. You are in charge of the drink and snack stand. You will be responsible for supplying drinks and snacks to sell during parent-teacher conference week.</p> <p>You will be given a chart with prices from three different stores. Evaluate which stores are going to be the best to purchase your products from. You need buy 100 drinks and 100 snacks. These amounts need to be shown as fractions with a denominator of 100. You could buy an equal amount of each drink or snack, you could buy half of one type of drink/snack and half another, you could buy all of the same drink/snack, etc. Find the total you will spend on drinks and on snacks. Represent that on the chart below.</p> <p>See Example on page 14.</p>	<p>Days: 3-5                  Mins/Day: 60</p>
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**Authentic Performance Task 1**

Name:	Task 1: Purchase of Product		Suggested Length	Days: 3-5 Mins/Day: 60
Standards Addressed	Priority Standards			
	CCSS Math		Standards for Mathematical Practice	
	<p>Task 1: Purchase of Product.</p> <p><b>4.NF.4</b> - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p><b>a.</b> Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</p> <p><b>b.</b> Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</p> <p><b>c.</b> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p> <p><b>Big Idea</b> – We will use visual models and equations to represent multiplication of fractions</p> <p><b>Essential Question</b> – How do you represent multiplying fractions with whole numbers in computation and word problems?</p>		<p><input type="checkbox"/> Make sense of problems and persevere in solving them</p> <p><input checked="" type="checkbox"/> Reason abstractly and quantitatively</p> <p><input checked="" type="checkbox"/> Construct viable arguments and critique the reasoning of others</p> <p><input checked="" type="checkbox"/> Model with mathematics</p> <p><input type="checkbox"/> Use appropriate tools strategically</p> <p><input checked="" type="checkbox"/> Attend to precision</p> <p><input type="checkbox"/> Look for and make use of structure</p> <p><input type="checkbox"/> Look for and express regularity in repeated reasoning</p>	
	Supporting Standards			
	CCSS Math	CCSS ELA	NG ELD	



	<p><b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><b>4.OA.3</b> – Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity Assess the reasonableness of answers using mental computation and estimations strategies including rounding.</p>	<p><b>RI.4.4</b>Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <p><b>RI.4.7</b>Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <p><b>L.4.4.a-c</b>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.</p> <p><b>L.4.6</b>Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife, conservation, and endangered</i> when discussing animal preservation).</p>	<p><b>ELD.4.I.B.6</b> (RI.4.1, RI.4.4, L.4.3)Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language.</p> <p><b>ELD.4.I.B.7</b> (L.4.3, L.4.5.c) Listening actively to spoken English in a range of social and academic context.</p> <p><b>ELD.4.I.A.2</b> (L.4.6) Interacting with others in writing language in various communicative forms (print, communicative technology, and multi-media).</p> <p><b>ELD.4.I.C.10</b> (W.4.2.d, W.4.10) Writing literary and informational text to present, describe, and explain ideas and information, using appropriate technology.</p> <p><b>ELD.4.II.A.1</b> (W.4.2.d) Understanding Text structure.</p> <p><b>ELD.4.II.A.2</b> (W.4.2.d) Understanding cohesion</p>
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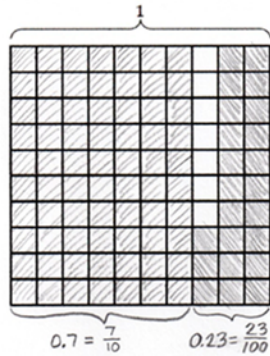
Teaching and Learning Progression	Suggestions:			Bloom's	DOK	
	<p>Teach students to apply and extend previous understandings of multiplication to multiply a fraction by a whole number. BY ...</p> <p><b>a.</b> Teaching them to understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i></p> <p><b>b.</b> Teaching them to understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</i></p> <p><b>c.</b> Teaching them to solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p>			2	1	
	Resources:			Scoring Rubric		
	<p>See 4<sup>th</sup> Grade California Mathematics Framework:  <a href="http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf">http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf</a>                      Engage New York                      Common Core Georgia Performance Standards (CCGPS)  <a href="http://www.learnzillions.com">www.learnzillions.com</a>  <a href="http://www.commoncoresheets.com">www.commoncoresheets.com</a></p> <p>You have purchased snacks for your week of sales. Snacks were bought in mix and match cases of 32 items each. Your case is made up of <math>\frac{1}{4}</math> popcorn, <math>\frac{1}{2}</math> chips, <math>\frac{1}{8}</math> cookies, and <math>\frac{1}{8}</math> crackers. Represent each of these fractions as a factor of the whole case.</p> <p>You bought 4 cases of snacks at the beginning of the week. At the end of the week, you have <math>\frac{1}{16}</math> of your popcorn, <math>\frac{1}{8}</math> of your chips, <math>\frac{1}{4}</math> of your cookies, and <math>\frac{1}{8}</math> of your crackers left over. Represent each of these fractions as a factor of the whole amount of snacks you began with.</p>			<p>4 – Thorough                      3 – Adequate                      2 – Partial                      1 – Minimal</p>		

Instructional Strategies			
All Students	SWD	ELs	Enrichment
<ul style="list-style-type: none"> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> </ul>	<ul style="list-style-type: none"> <li>Graphic organizers</li> <li>Differentiated instruction</li> </ul>	<ul style="list-style-type: none"> <li>Graphic organizers</li> <li>Differentiated instruction</li> </ul>	<ul style="list-style-type: none"> <li>Cooperative Grouping with assigned roles.</li> <li>More challenging work</li> </ul>

<ul style="list-style-type: none"> <li>• Think-Pair-Share</li> <li>• Clear expectations and examples</li> <li>• Addressing learning modalities/Accommodating learning style preferences.</li> </ul>	<ul style="list-style-type: none"> <li>• Repetition</li> <li>• Manipulatives</li> <li>• Modified curriculum</li> <li>• Additional time</li> </ul> <p>www.alvordusdrd.org</p>	<ul style="list-style-type: none"> <li>• Repetition</li> <li>• Manipulatives</li> </ul>	<p>above and beyond grade level.</p> <ul style="list-style-type: none"> <li>• Tiered assignments.</li> </ul>
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**Authentic Performance Task 2**

Name:	Task 2: Denominators of 10 to 100		Suggested Length	Days: 3-5 Mins/Day: 60
Standards Addressed	Priority Standards			
	CCSS Math		Standards for Mathematical Practice	
	<p>Task 2: Denominators of 10 to 100</p> <p><b>4.NF.5</b> - Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.<sup>2</sup> <i>For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.</i></p> <p><b>Big Idea</b> – Tenths and hundredths can be used when finding equivalent fractions to add them together.</p> <p><b>Essential Question</b> – When can 10ths and 100ths be used interchangeably?</p>		<input type="checkbox"/> Make sense of problems and persevere in solving them <input checked="" type="checkbox"/> Reason abstractly and quantitatively <input checked="" type="checkbox"/> Construct viable arguments and critique the reasoning of others <input checked="" type="checkbox"/> Model with mathematics <input type="checkbox"/> Use appropriate tools strategically <input checked="" type="checkbox"/> Attend to precision <input type="checkbox"/> Look for and make use of structure <input type="checkbox"/> Look for and express regularity in repeated reasoning	
	Supporting Standards			
	CCSS Math	CCSS ELA	NG ELD	
<p><b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><b>4.OA.3</b> – Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p>	<p><b>RI.4.4</b> Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <p><b>RI.4.7</b> Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <p><b>L.4.4.a-c</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.</p> <p><b>L.4.6</b> Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife, conservation, and endangered</i> when discussing animal preservation).</p>	<p><b>ELD.4.I.B.6</b> (RI.4.1, RI.4.4, L.4.3) Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language.</p> <p><b>ELD.4.I.B.7</b> (L.4.3, L.4.5.c) Listening actively to spoken English in a range of social and academic context.</p> <p><b>ELD.4.I.A.2</b> (L.4.6) Interacting with others in writing language in various communicative forms (print, communicative technology, and multi-media).</p> <p><b>ELD.4.I.C.10</b> (W.4.2.d, W.4.10) Writing literary and informational text to present, describe, and explain ideas and information, using appropriate technology.</p>		
Teaching and Learning Progression	Suggestions:		Bloom's	DOK
	Teach students to express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. <i>For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.</i>		2	1
			Scoring Rubric	
		4 – Thorough		
		3 – Adequate		
		2 – Partial		
		1 – Minimal		



$$\frac{7}{10} + \frac{23}{100} = \frac{70}{100} + \frac{23}{100} = \frac{93}{100}$$

$$\frac{93}{100} = 0.93$$

Resources:

See 4<sup>th</sup> Grade California Mathematics Framework:  
<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf>  
 Engage New York  
 Common Core Georgia Performance Standards (CCGPS)  
[www.learnzillions.com](http://www.learnzillions.com)  
[www.commoncoresheets.com](http://www.commoncoresheets.com)

You purchased a case of 100 beverages to sell. Water is  $\frac{5}{10}$  of the case, juice boxes are  $\frac{3}{10}$  of the case, and soda is  $\frac{2}{10}$  of the case.

Change the fractions above to fractions with a denominator of 100 to figure out the exact number of each beverage you have to sell.

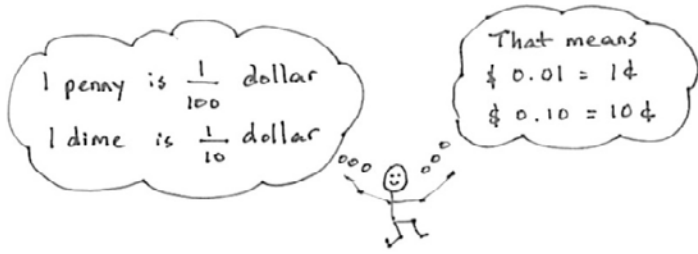
At the end of the week, you sold **ALL** of the water,  $\frac{23}{100}$  of juice and  $\frac{9}{100}$  of soda. Tell how many beverages you sold as a fraction with 100 as a denominator.

Instructional Strategies			
All Students	SWD	ELs	Enrichment
<ul style="list-style-type: none"> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> <li>Think-Pair-Share</li> <li>Clear expectations and examples</li> <li>Addressing learning modalities/Accommodating learning style preferences.</li> </ul>	<ul style="list-style-type: none"> <li>Graphic organizers</li> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> <li>Additional time</li> </ul> <p><a href="http://www.alvordusdrd.org">www.alvordusdrd.org</a></p>	<ul style="list-style-type: none"> <li>Graphic organizers</li> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> </ul>	<ul style="list-style-type: none"> <li>Cooperative Grouping with assigned roles.</li> <li>More challenging work above and beyond grade level.</li> <li>Tiered assignments.</li> </ul>

**Authentic Performance Task 3**

Name:	Task 3: Fractions to Decimals Then Compare		Suggested Length	Days: 3-5 Mins/Day: 60
Standards Addressed	Priority Standards			
	CCSS Math		Standards for Mathematical Practice	
	Task 3: <b>4.NF.6</b> - Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i> <b>Big Idea</b> - Decimal notation for fractions with denominators 10 or 100 can be rewritten as 0.1 and 0.01 respectively. <i>E.g. 1/10 and 1/100 will</i>		<input checked="" type="checkbox"/> Make sense of problems and persevere in solving them <input checked="" type="checkbox"/> Reason abstractly and quantitatively <input checked="" type="checkbox"/> Construct viable arguments and critique the reasoning of others <input checked="" type="checkbox"/> Model with mathematics	

	<p><i>be written as 0.1 and 0.01.</i></p> <p><b>Essential Question</b> – How are fractions of 10ths and 100ths represented as decimals?</p> <p><b>4.NF.7</b> - Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual model.</p> <p><b>Big Idea</b> – Comparing two decimals or fractions can only be compared when they are referencing the same whole</p> <p><b>Essential Question</b> - When are the comparison of two or more decimals or fractions valid?</p>	<input type="checkbox"/> Use appropriate tools strategically <input checked="" type="checkbox"/> Attend to precision <input type="checkbox"/> Look for and make use of structure <input type="checkbox"/> Look for and express regularity in repeated reasoning		
<b>Supporting Standards</b>				
CCSS Math	CCSS ELA		NG ELD	
<p><b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p> <p><b>4.OA.3</b> – Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity Assess the reasonableness of answers using mental computation and estimations strategies including rounding.</p>	<p><b>RI.4.4</b> Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <p><b>RI.4.7</b> Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p> <p><b>L.4.4.a-c</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.</p> <p><b>L.4.6</b> Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife, conservation, and endangered</i> when discussing animal preservation).</p>		<p><b>ELD.4.IB.6</b> (RI.4.1, RI.4.4, L.4.3) Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language.</p> <p><b>ELD.4.IB.7</b> (L.4.3, L.4.5.c) Listening actively to spoken English in a range of social and academic context.</p> <p><b>ELD.4.IA.2</b> (L.4.6) Interacting with others in writing language in various communicative forms (print, communicative technology, and multi-media).</p> <p><b>ELD.4.IC.10</b> (W.4.2.d, W.4.10) Writing literary and informational text to present, describe, and explain ideas and information, using appropriate technology.</p> <p><b>ELD.4.II.A.1</b> (W.4.2.d) Understanding Text structure.</p> <p><b>ELD.4.II.A.2</b> (W.4.2.d) Understanding cohesion</p>	
Teaching and Learning Progression	Suggestions:		Bloom's	DOK
	<p>Teach students to use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100 OR Describe a length as 0.62 meters OR Locate 0.62 on a number line diagram.</p>		2	1
			Scoring Rubric	



Resources:

See 4<sup>th</sup> Grade California Mathematics Framework:  
<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf>  
 Engage New York  
 Common Core Georgia Performance Standards (CCGPS)  
[www.learnzillions.com](http://www.learnzillions.com)  
[www.commoncoresheets.com](http://www.commoncoresheets.com)

For each day of your sale, you need to have some change to start with. You have 3 quarters, 8 dimes, 12 nickels, and 7 pennies.

Represent each of these amounts as a fraction of 10 (if possible), 100, and as a decimal amount.

Suggestions:

Teach students to compare decimals to hundredths by reasoning about their size and to recognize that comparisons are valid only when the two decimals refer to the same whole. Students should be able to record the results of comparisons with the symbols >, =, or <, and justify their conclusions by using a visual model.



Resources:

See 4<sup>th</sup> Grade California Mathematics Framework:  
<http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf>  
 Engage New York  
 Common Core Georgia Performance Standards (CCGPS)  
[www.learnzillions.com](http://www.learnzillions.com)  
[www.commoncoresheets.com](http://www.commoncoresheets.com)

Using task 3, compare the amount of each type of money you start the day with (i.e. pennies, nickels, dimes, and quarters), using the symbols >, =, or <.

Determine which type of money you have the most of, least of, etc.

- 4 - Thorough
- 3 - Adequate
- 2 - Partial
- 1 - Minimal

Instructional Strategies

All Students	SWD	ELs	Enrichment
<ul style="list-style-type: none"> <li>• Cooperative Grouping with assigned roles</li> <li>• Study Buddy</li> <li>• Think-Pair-Share</li> <li>• Clear expectations and examples</li> <li>• Addressing learning modalities/Accommodating learning style preferences.</li> </ul>	<ul style="list-style-type: none"> <li>• Graphic organizers</li> <li>• Differentiated instruction</li> <li>• Repetition</li> <li>• Manipulatives</li> <li>• Modified curriculum</li> <li>• Additional time</li> </ul> <p><a href="http://www.alvordusdrd.org">www.alvordusdrd.org</a></p>	<ul style="list-style-type: none"> <li>• Graphic organizers</li> <li>• Differentiated instruction</li> <li>• Repetition</li> <li>• Manipulatives</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperative Grouping with assigned roles.</li> <li>• More challenging work above and beyond grade level.</li> <li>• Tiered assignments.</li> </ul>

**Task 4**  
(Engaging Scenario)

Detailed Description (situation, challenge, role, audience, product or performance)

Description:

Your school is having a fundraiser. You are in charge of the drink and snack stand. You will be responsible for supplying drinks and snacks to sell during parent-teacher conference week.

You will be given a chart with prices from three different stores. Evaluate which stores are going to be the best to purchase your products from. You need buy 100 drinks and 100 snacks. These amounts need to be shown as fractions with a denominator of 100. You could buy an equal amount of each drink or snack, you could buy half of one type of drink/snack and half another, you could buy all of the same drink/snack, etc. Find the total you will spend on drinks and on snacks. Represent that on the chart below. See Example.

	Drinks				Snacks			
	Price Per Soda	Price Per Juice Box	Price Per Gatorade	Price Per Water Bottle	Price Per Pack of Popcorn	Price Per Bag of Chips	Price Per Pack of Cookies	Price Per Pack of Crackers
<b>Costco</b>	\$0.25	\$0.20	\$0.80	\$0.10	\$0.99	\$0.75	\$0.70	\$0.75
<b>Wal-Mart</b>	\$0.50	\$0.15	\$0.75	\$0.30	\$0.95	\$0.85	\$0.65	\$0.75
<b>Vons</b>	\$0.75	\$0.25	\$0.75	\$0.20	\$0.99	\$0.99	\$0.80	\$0.75

Drink	Fraction Bought	Store	Price Per Type	Amount Bought	Total For Each Drink
Soda					
Juice Boxes					
Gatorade					
Water					
Total of All Drinks:					
Snacks	Fraction Bought	Store	Price Per Type	Amount Bought	Total For Each Snack
Popcorn					
Chips					
Cookies					
Crackers					
Total of All Snacks:					

For Example:

Drink	Fraction Bought	Store	Price Per Type	Amount Bought	Total For Each Drink
Soda	25/100	Costco	\$0.25	25	\$6.25
Juice Boxes	25/100	Walmart	\$0.15	25	\$3.75
Gatorade	25/100	Vons	\$0.75	25	\$18.75
Water	25/100	Costco	\$0.10	25	\$2.50
Total of All Drinks:					\$31.25
Snacks	Fraction Bought	Store	Price Per Type	Amount Bought	Total For Each Snack
Popcorn	25/100	Walmart	\$0.95	25	\$23.75
Chips	25/100	Costco	\$0.75	25	\$18.75
Cookies	25/100	Walmart	\$0.65	25	\$16.25
Crackers	25/100	Vons	\$0.75	25	\$18.75
Total of All Snacks:					\$77.50

Based on how much you spent, how much will you charge for your drinks? How much will you charge for your snacks? If you sold everything you bought (100 drinks, 100 snacks), were your sales profitable? For example: If I charge \$0.50 on each drink, I will make \$50 which is a profit of \$18.75. If I charged \$1.00 for each snack, I will make \$100 which is a profit of \$22.50 (All information is based on the example chart above.)

You will research and gather your information individually and place your data into your chart. You will then meet in small groups, share your information, and vote on the sales that your group finds to be the most profitable. Your group will need to present your report to your class and make an argument as to why you picked the prices you did, whether your sale was profitable, and how much money you made/lost.

Instructional Strategies			
All Students	SWD	ELs	Enrichment
Cooperative Grouping with assigned roles Study Buddy Think-Pair-Share Clear expectations and examples Addressing learning modalities/Accommodating learning style preferences.	Graphic organizers Differentiated instruction Repetition Manipulatives Modified curriculum Additional time www.alvordusdrccd.org	Graphic organizers Differentiated instruction Repetition Manipulatives	Cooperative Grouping with assigned roles. More challenging work above and beyond grade level. Tiered assignments.

**Feedback to Curriculum Team**

Reflect on the teaching and learning process within this unit of study. What were some successes and challenges that might be helpful when refining this unit of study?

	Successes	Challenges
Student Perspective		
Teacher Perspective		